



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 1 -- Catchment Information**

Subwatershed: Bear Branch

Location of Catchment Centroid on ADC Map: Year: 2001 Page: 4 Grid: F5

State Plane Coordinates of Outfall Location: X: 1351333 Y: 518589

Closest Road Intersection to Outfall: Harvest Bend Lane and Marymont Drive

Outfall SDI ID or Outfall Description: Outfalls to Laurel Lakes

Objective: Demonstration / Impairment(s) (Sheet 1) \_\_\_\_\_

Drainage Area (ac): 52.1 Impervious Area (ac): 32.1

Percent Impervious: 62% Soil Recharge Factor (S): 0.129

WQ<sub>v</sub> (required): 2.6 Re<sub>v</sub> (required): 0.06

Predominant Land Use: commercial Mean Depth to Ground Water: >=5ft

Sanitary System:  Septic  Municipal Sewer Water Supply:  On Site Well  Public Water

**Storm Drainage System Within Catchment**

Piped: 75% Open Channels: 25%

Area Drained by System: 95%

Location in Catchment:  Headwaters  Middle  Lower  All

Open Channel Lining- Vegetation: 95% Riprap: 5% Concrete: 0% Other: 0%

**Existing IMP(s) / BMP(s)**

SDI ID: 85127A Type (number from Sheets 4 & 5): 16 Age: 17

Closest Road Intersection to IMP / BMP: Cherry Lane and Laurel Place

Catchment Area Treated (ac) : 13.57 Percentage Catchment Treated: 26%

WQ<sub>v</sub> Provided:  YES  NO Re<sub>v</sub> Provided:  YES  NO C<sub>p</sub> Provided:  YES  NO

SDI ID: \_\_\_\_\_ Type (number from Sheets 4 & 5): \_\_\_\_\_ Age: \_\_\_\_\_

Closest Road Intersection to IMP / BMP: \_\_\_\_\_

Catchment Area Treated (ac) : \_\_\_\_\_ Percentage Catchment Treated: \_\_\_\_\_

WQ<sub>v</sub> Provided:  YES  NO Re<sub>v</sub> Provided:  YES  NO C<sub>p</sub> Provided:  YES  NO

SDI ID: \_\_\_\_\_ Type (number from Sheets 4 & 5): \_\_\_\_\_ Age: \_\_\_\_\_

Closest Road Intersection to IMP / BMP: \_\_\_\_\_

Catchment Area Treated (ac) : \_\_\_\_\_ Percentage Catchment Treated: \_\_\_\_\_

WQ<sub>v</sub> Provided:  YES  NO Re<sub>v</sub> Provided:  YES  NO C<sub>p</sub> Provided:  YES  NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 1 -- Catchment Information (concluded)**

<b>CATCHMENT SUMMARY</b>			
WQ <sub>v</sub> (provided):	<u>0.7</u>	Re <sub>v</sub> (provided) :	<u>0.1</u>
Area Treated (ac):	<u>13.57</u>	Impervious Area Treated (ac):	<u>8.36</u>
Area Treated (%):	<u>26%</u>	Impervious Area Treated (%):	<u>26%</u>

**Comments**

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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 2 -- Site Information**

Site Name: Granville Gude Park and Lakehouse Address: Mulberry Street, Laurel MD 20707

Site Owner: Mayor and City Council of Laurel

State Plane Coordinates of Site Centroid: X: 1351349 Y: 518437 Date: 4/15/03

Personnel: PM Weather: sunny, 80F deg

Area (ac): 7.5 Impervious Area (ac): 0.4

Percent Impervious: 6% Soil Recharge Factor (S): 0.124

WQ<sub>v</sub> (required): 0.065 Re<sub>v</sub> (required): 0.008

Property Area (ac): 7.5 Property Area Included in Site: 100%

Amount of Catchment Occupied by Site: 14%

**Storm Drainage System Within Site**

Piped: 0% Open Channels: 100% Area Drained by System: 20%

Open Channel Lining - Vegetation: 80% Riprap: 20% Concrete: 0% Other: 0%

**Existing IMP(s) / BMP(s)** (Identified on Page 1, FORM 1, Catchment Information)

SDI ID: \_\_\_\_\_ Condition:  Excellent  Good  Average  Fair  Poor

SDI ID: \_\_\_\_\_ Condition:  Excellent  Good  Average  Fair  Poor

SDI ID: \_\_\_\_\_ Condition:  Excellent  Good  Average  Fair  Poor

**Site Information**

Type of Pavement:  Bituminous  Concrete  Gravel  Grid Pavers  Other brick

Pavement Condition:  Excellent  Good  Average  Fair  Poor

Underdrains can be easily directed to existing storm drains or daylighted:  YES  NO

Gutter/Exterior Downspouts Present:  YES  NO

Roof Connected Directly to Storm Drain:  YES  NO

Roof Drains onto Impervious Surface:  YES  NO

Obvious Existing Drainage Problems:  Extensive  Moderate  Average  Limited  None

Steep Slopes Present:  Extensive  Moderate  Average  Limited  None

Existing Landscaping:  Extensive  Moderate  Average  Limited  None

Mature / Specimen Trees:  Extensive  Moderate  Average  Limited  None

Area Available for Aboveground BMPs:  Extensive  Moderate  Average  Limited  None

Existing Cover of Potential Aboveground BMP Locations:  Grass  Landscaped  Gravel  Other Pervious  
 Pavement  Other Impervious

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 2 -- Site Information (concluded)**

**Commercial / Institutional**

Islands Present:  YES  NO

Curb Present Around Island:  YES  NO

Ground Level of Island Relative to Pavement:  Above  Equal  Below

Island Landscaping:  Impervious  Bare Earth  Gravel  Grass  Mulch  Herbaceous Plants  Shrubs  
 Trees (<2 in. DBH)  Trees (2 - 6 in. DBH)  Trees (>6 in. DBH)

Trees have sufficient spacing to allow IMPs  YES  NO

Parking area that can be directed to potential treatment area with little grading: 100%

<b>SITE SUMMARY</b>			
WQ <sub>v</sub> (provided) :	<u>0.06</u>	Re <sub>v</sub> (provided):	<u>0.01</u>
Area Treated (ac) :	<u>3.75</u>	Impervious Area Treated (ac):	<u>0.33</u>
Area Treated (%) :	<u>50</u>	Impervious Area Treated (%):	<u>83</u>

**Photographs**

- No. 563 Description: looking west at east side of building
- No. 564 Description: looking east at west side of building
- No. 565 Description: looking north at south side of building
- No. 566 Description: looking south at north side of building
- No. \_\_\_\_\_ Description: \_\_\_\_\_

**Comments** Roof drains could easily be disconnected - storm drains are not that deep.

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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 2 -- Site Information**



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## UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 7

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 4, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.011 ac 100%

### Retrofit of Existing SWM BMP

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 5

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.04 ac 100%

**Retrofit of Existing SWM BMP**

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

<b>IMP / BMP SUMMARY</b>	
WQ <sub>v</sub> (provided): <u>Undetermined</u>	Re <sub>v</sub> (provided): <u>0.000</u>
Area Treated (ac): <u>0.04</u>	Impervious Area Treated (ac): <u>0.04</u>

**Photographs**

No. <u>10</u>	Description: <u>typical location</u>
No. _____	Description: _____

**Comments** Rain barrels and cisterns will be used where feasible. Will also use planter boxes. Downspouts will have to be disconnected.

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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 45

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.04 ac 100%

**Retrofit of Existing SWM BMP**

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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## UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 50

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.45 ac 100%

### Retrofit of Existing SWM BMP

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

<b>IMP / BMP SUMMARY</b>			
WQ <sub>v</sub> (provided):	<u>0.008</u>	Re <sub>v</sub> (provided):	<u>0.001</u>
Area Treated (ac):	<u>0.45</u>	Impervious Area Treated (ac):	<u>0.05</u>

**Photographs**

No. <u>12</u>	Description: <u>looking east</u>
No. <u>13</u>	Description: <u>looking west</u>
No. _____	Description: _____

**Comments** Area of propped IMP appears to be poorly drained. Underdrains may be needed.  
Less than 17% imperviousness, therefore 1/2 in. of runoff was used  
IMP area = 549 sq ft  
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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 50

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.27 ac 100%

**Retrofit of Existing SWM BMP**

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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## UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 50

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: \_\_\_\_\_ ac 100%

### Retrofit of Existing SWM BMP

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

<b>IMP / BMP SUMMARY</b>			
WQ <sub>v</sub> (provided):	<u>0.002</u>	Re <sub>v</sub> (provided):	<u>0.000</u>
Area Treated (ac):	<u>0.08</u>	Impervious Area Treated (ac):	<u>0.02</u>

**Photographs**

No. <u>4</u>	Description: <u>looking south</u>
No. _____	Description: _____

**Comments** Area of propped IMP appears to be poorly drained. Underdrains may be needed.  
Combined with GGPL-7  
IMP size = 803 sq ft  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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## UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 1.45 ac 100%

### Retrofit of Existing SWM BMP

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

<b>IMP / BMP SUMMARY</b>			
WQ <sub>v</sub> (provided):	<u>0.024</u>	Re <sub>v</sub> (provided):	<u>0.002</u>
Area Treated (ac):	<u>1.45</u>	Impervious Area Treated (ac):	<u>0.18</u>

**Photographs**

No. <u>5</u>	Description: <u>looking south</u>
No. <u>6</u>	Description: <u>looking west</u>
No. _____	Description: _____

**Comments** Area of proposed IMP appears to be poorly drained. Underdrains may be needed.  
Less than 17% imperviousness, therefore 1/2 in. of runoff was used  
IMP area = 1,666 sq ft  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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## UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 2, 3, 4, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 1.5 ac 100%

### Retrofit of Existing SWM BMP

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

<b>IMP / BMP SUMMARY</b>			
WQ <sub>v</sub> (provided):	<u>0.025</u>	Re <sub>v</sub> (provided):	<u>0.001</u>
Area Treated (ac):	<u>1.50</u>	Impervious Area Treated (ac):	<u>0.02</u>

**Photographs**

No. <u>2</u>	Description: <u>looking west</u>
No. <u>3</u>	Description: <u>looking east</u>
No. _____	Description: _____

**Comments** Area of proposed IMP appears to be poorly drained. Underdrains may be needed.  
Less than 17% imperviousness, therefore 1/2 in. of runoff was used  
IMP area = 876 sq ft  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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3

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 59

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 3, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.83 ac 100%

**Retrofit of Existing SWM BMP**

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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8



17



1



7

## UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP  SWM BMP Retrofit  New SWM BMP  Type (Sheets 4 & 5): 52

State Plane Coordinates of IMP / BMP Centroid: X: \_\_\_\_\_ Y: \_\_\_\_\_

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): 1, 3, 7, 16

Treatment Area Ownership:  Transportation ROW  Utility ROW  County  Other Government  Private  
 Other City of Laurel

Infrastructure / Structures / Buildings Impacted:  YES  NO

Limited Impact to Adjacent Properties:  YES  NO

Area Accessible for Construction:  YES  NO

Area Accessible for Maintenance:  YES  NO

Limited Permitting Issues:  YES  NO

Jurisdictional Wetlands Impacted:  YES  NO

Forest Retention Area Impacted:  YES  NO

Conservation Easement Impacted:  YES  NO

Utilities Present:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Utilities Impacted:  None  Natural Gas  Electric  Telephone  Cable  Water  Sewer  Other \_\_\_\_\_

Impacted Utilities:  Above Gound  Underground

Critical Area Impacted:  YES  NO

Mature / Specimen Trees Impacted:  YES  NO

Existing Landscaping Impacted:  YES  NO

Underdrain Needed:  YES  NO

Underdrains Can Discharge:  YES  NO

Soils are Suitable:  YES  NO

Ground Water Table Level Suitable:  YES  NO

Estimate IMP / BMP drainage area included on site: 0.83 ac 100%

### Retrofit of Existing SWM BMP

SDI ID: \_\_\_\_\_

Add Forebay:  YES  NO

Modify Outlet Structure:  YES  NO

Add Aquatic Bench:  YES  NO

Grade Bottom of Facility:  YES  NO

Plant Native Vegetation:  YES  NO

Provide Additional Storage Volume:  YES  NO

Excavation / Raise the Embankment:  YES  NO



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)  
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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8



17



1



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